



Johnson Corner Solar Project

October 11, 2018



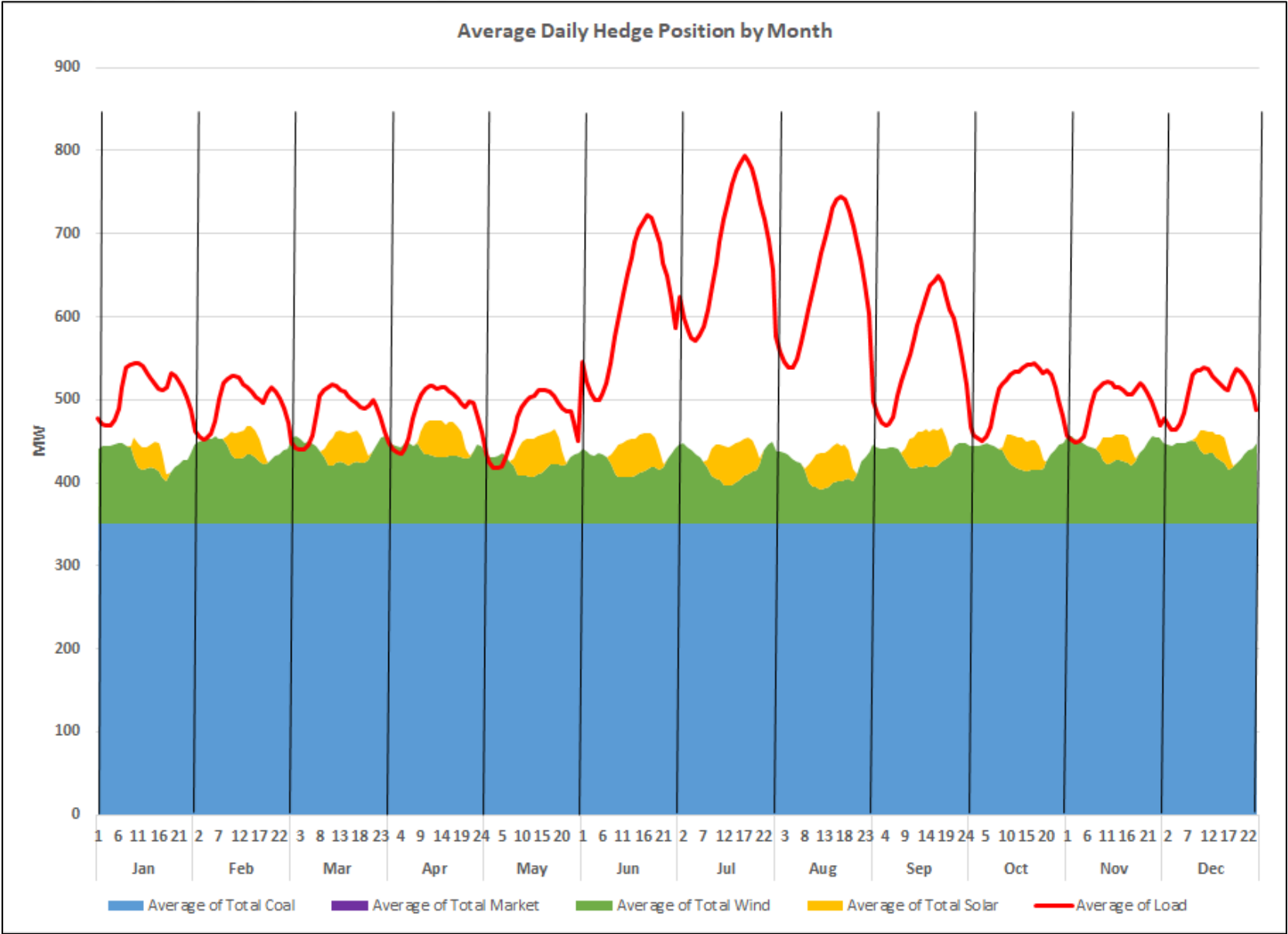
Overview

- Why does a solar project make sense for Mid-Kansas?
 - Energy Hedge
 - Capacity Value
 - Transmission Benefits
 - Ancillary Benefits
- Current Project Status
 - Partnership with National Renewables Cooperative and Lightsource BP
 - Construction Schedule

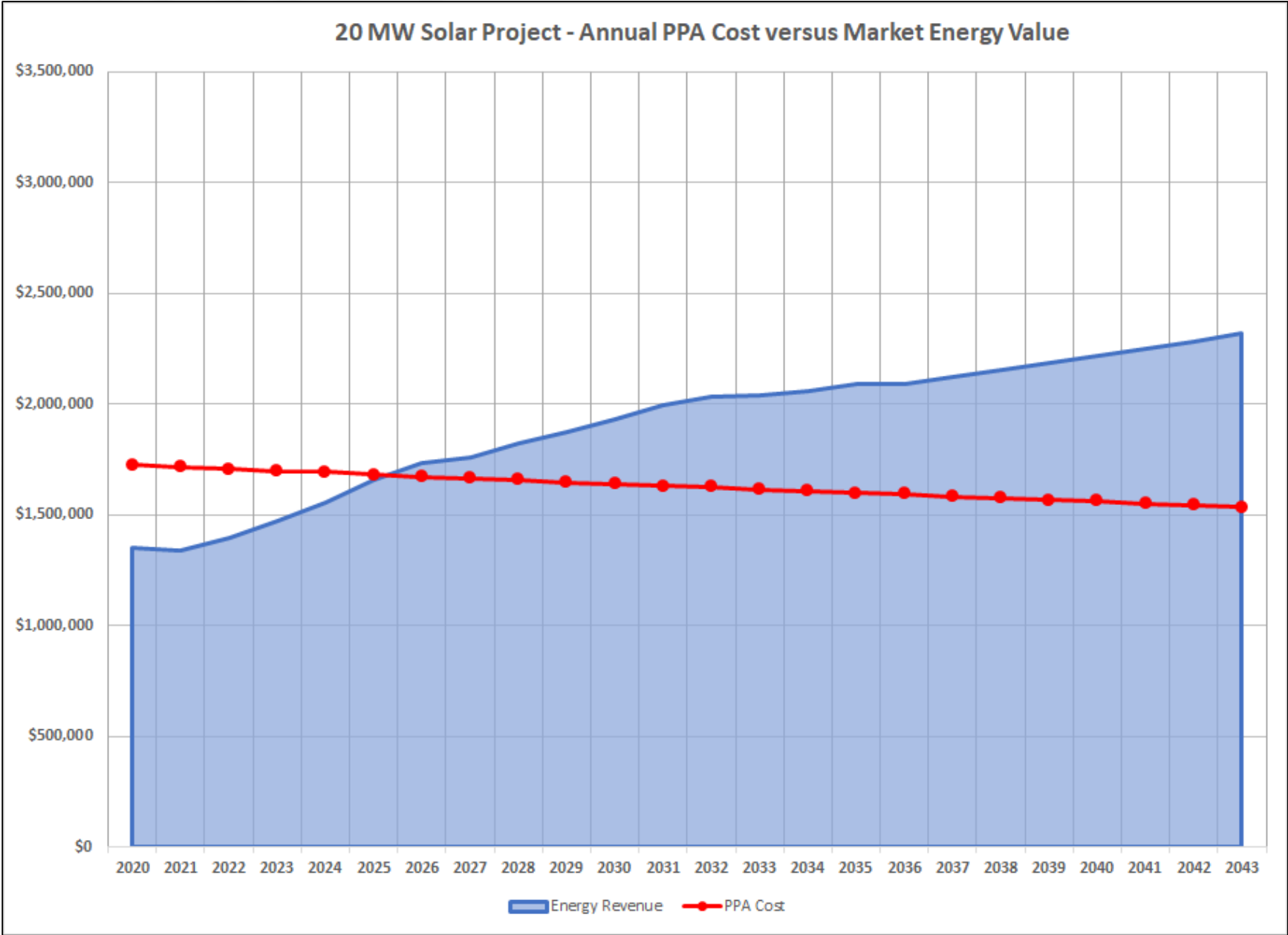
Why Solar?

- Solar energy provides a fixed-price, on-peak hedge against the market price of energy
- Solar energy prices have dropped to the point that they are competitive with projected on-peak market energy prices over the next several years
- Per the SPP capacity accreditation methodology, solar resources should be able to accredit a substantial percentage of their nameplate capacity
 - Estimating Mid-Kansas can accredit ~75% of nameplate capacity for the Johnson Corner Solar Project
 - By comparison, wind resources typically accredit about 10% of nameplate capacity
- Generation injection from a solar project at Johnson Corner will defer the need for an \$8,000,000 transmission upgrade
- A utility-scale solar project provides several ancillary benefits
 - Provides customers who want to participate in solar with a cheaper alternative to roof-top solar or other small-scale solar options that could impact our energy sales
 - Further diversification of our resource portfolio
 - Marketing benefits when recruiting new load associated with adding a new “environmentally-friendly” resource to our fleet

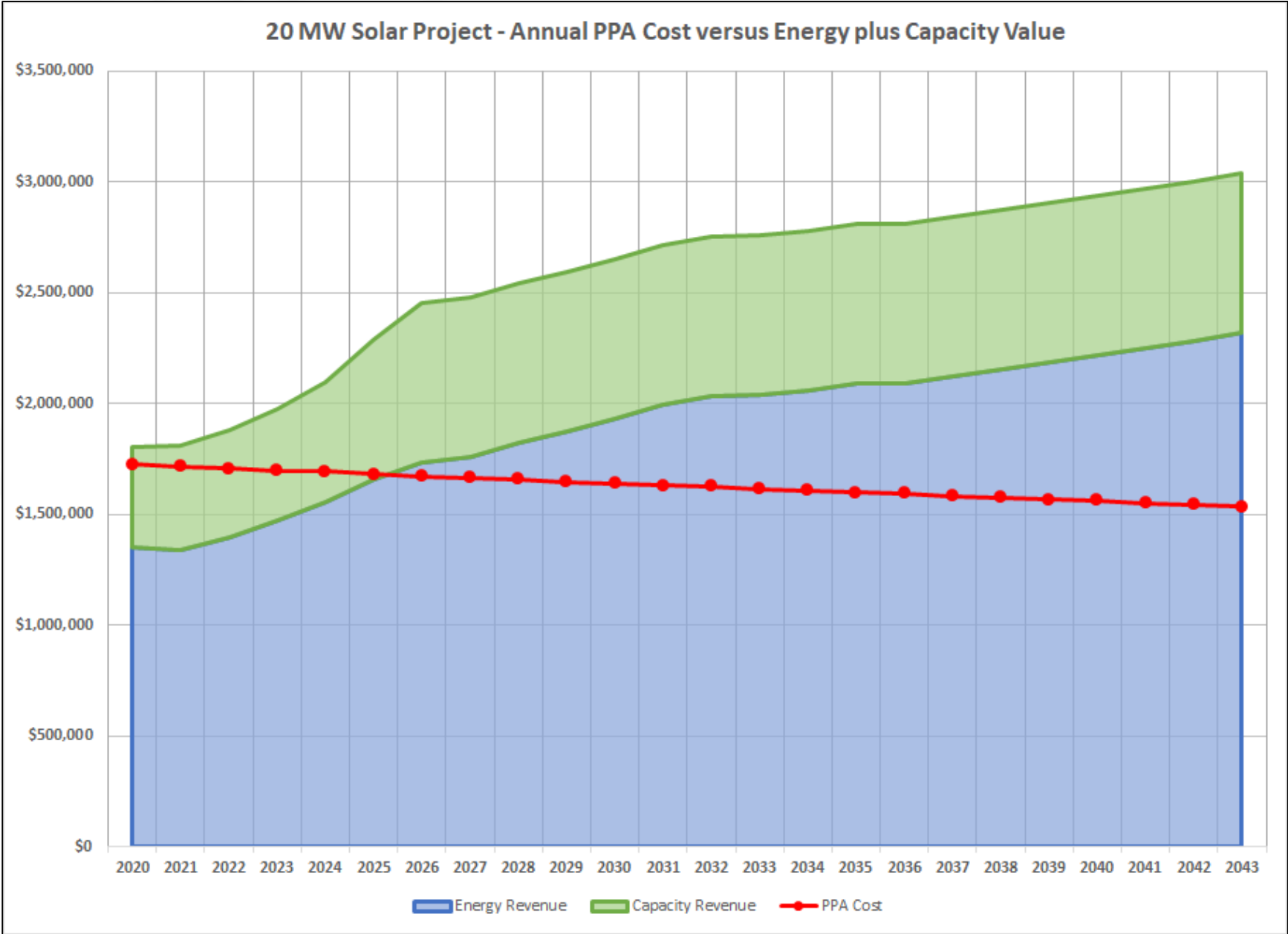
Energy Hedge



Energy Value

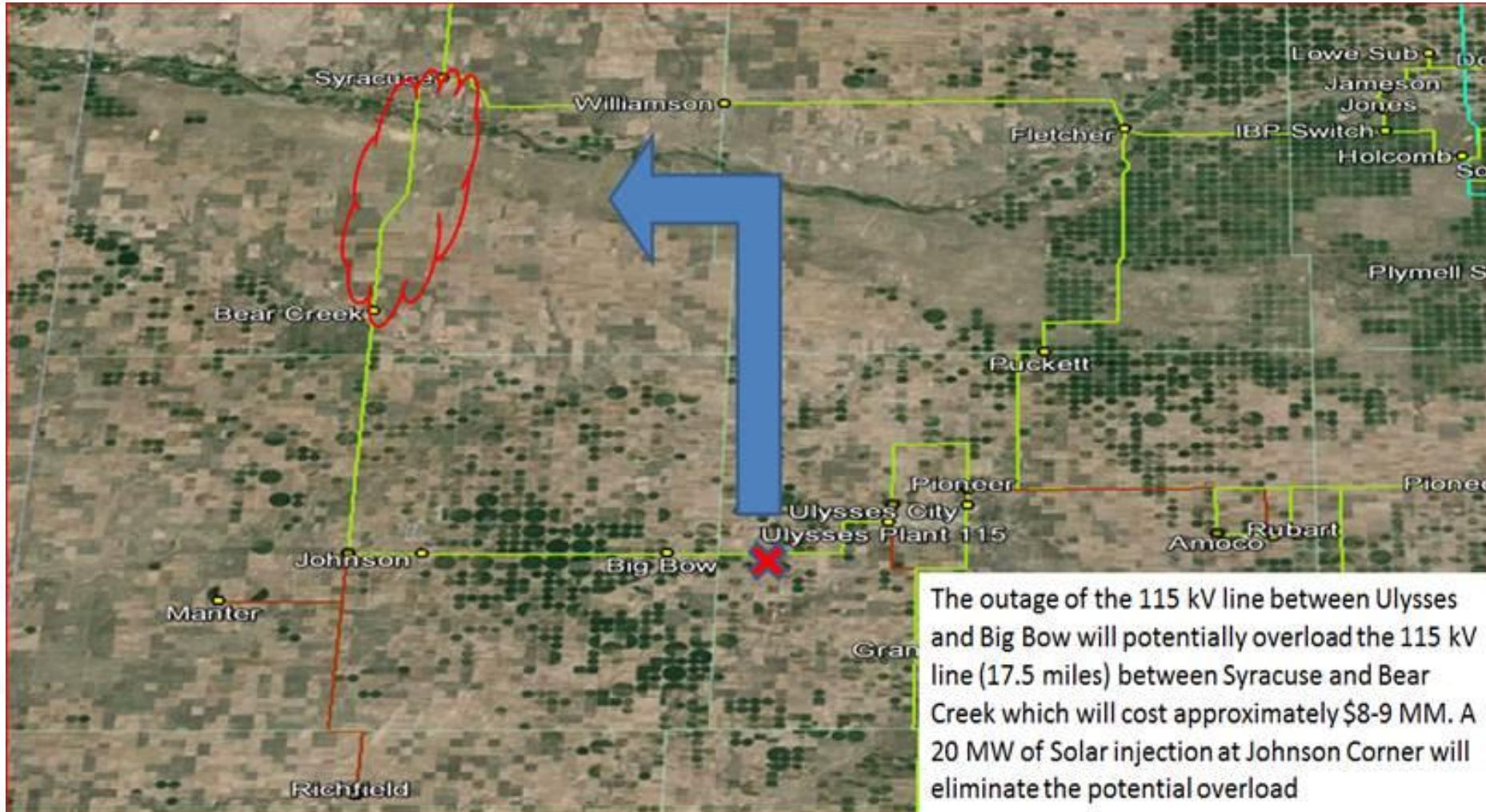


Capacity Value

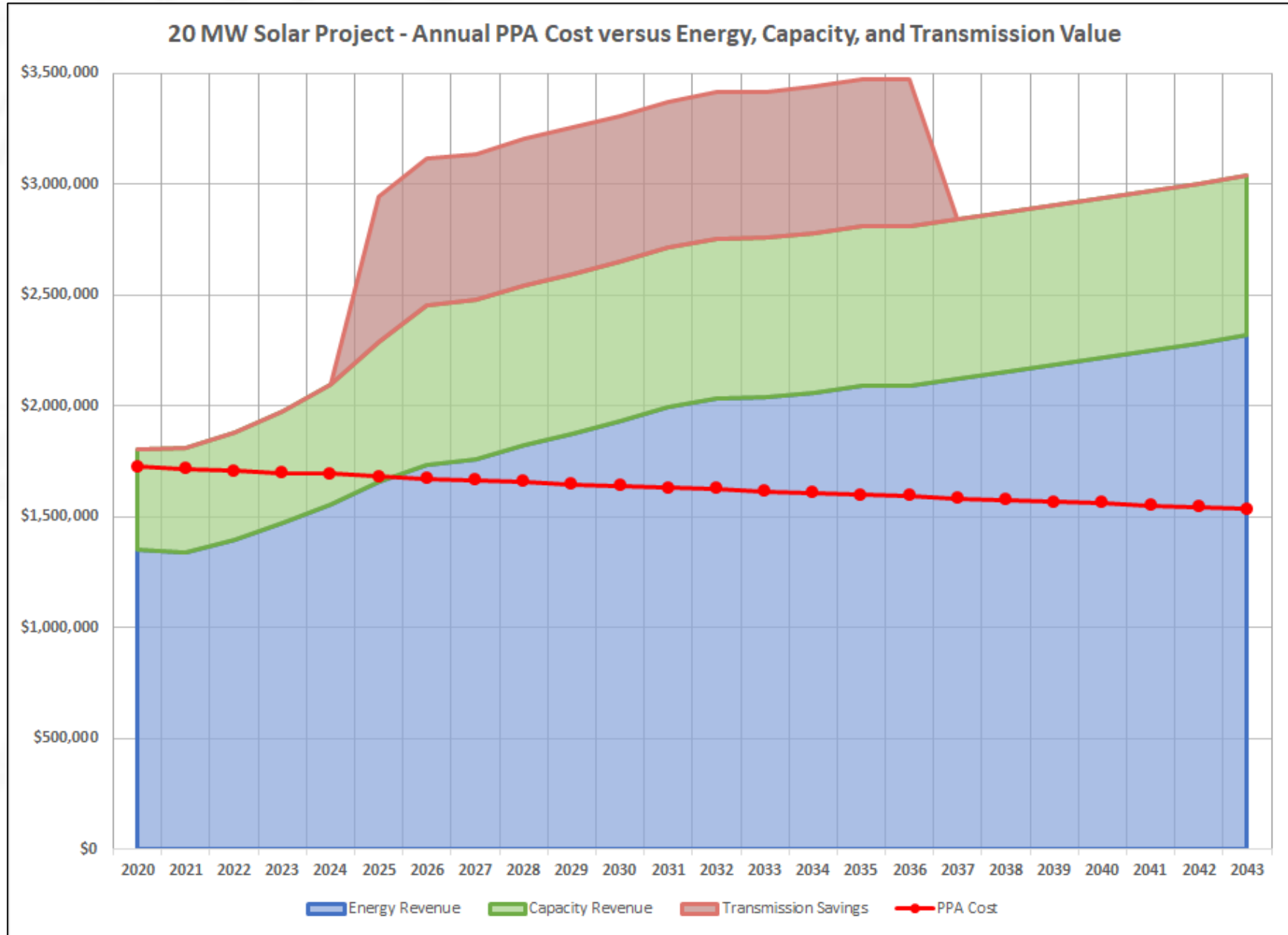


Transmission Value

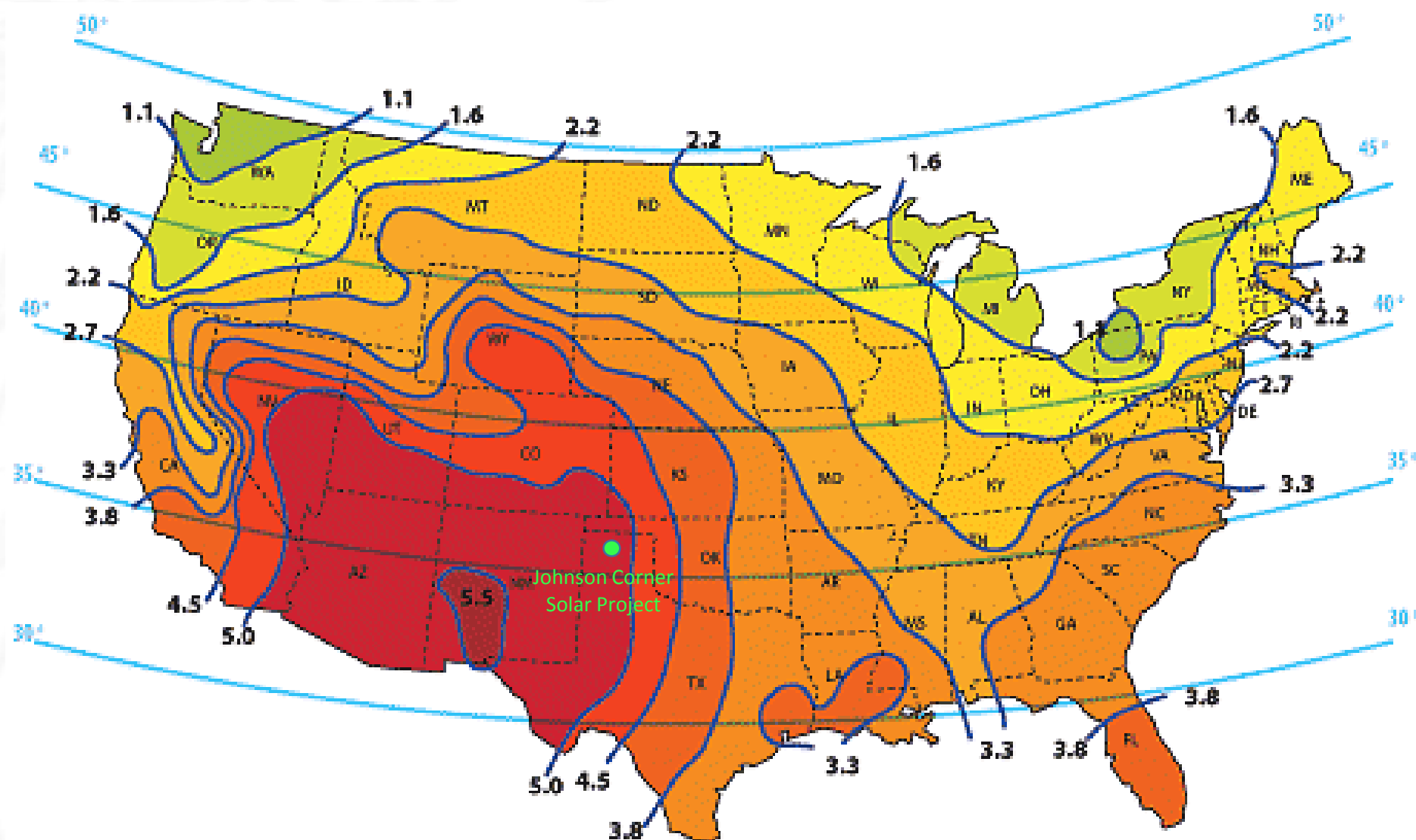
- Interconnecting a 20 MW solar generator at the Johnson Corner substation defers the need for an \$8,000,000 upgrade of the Bear Creek – Syracuse 115 kV line from 2025 to 2035 or beyond



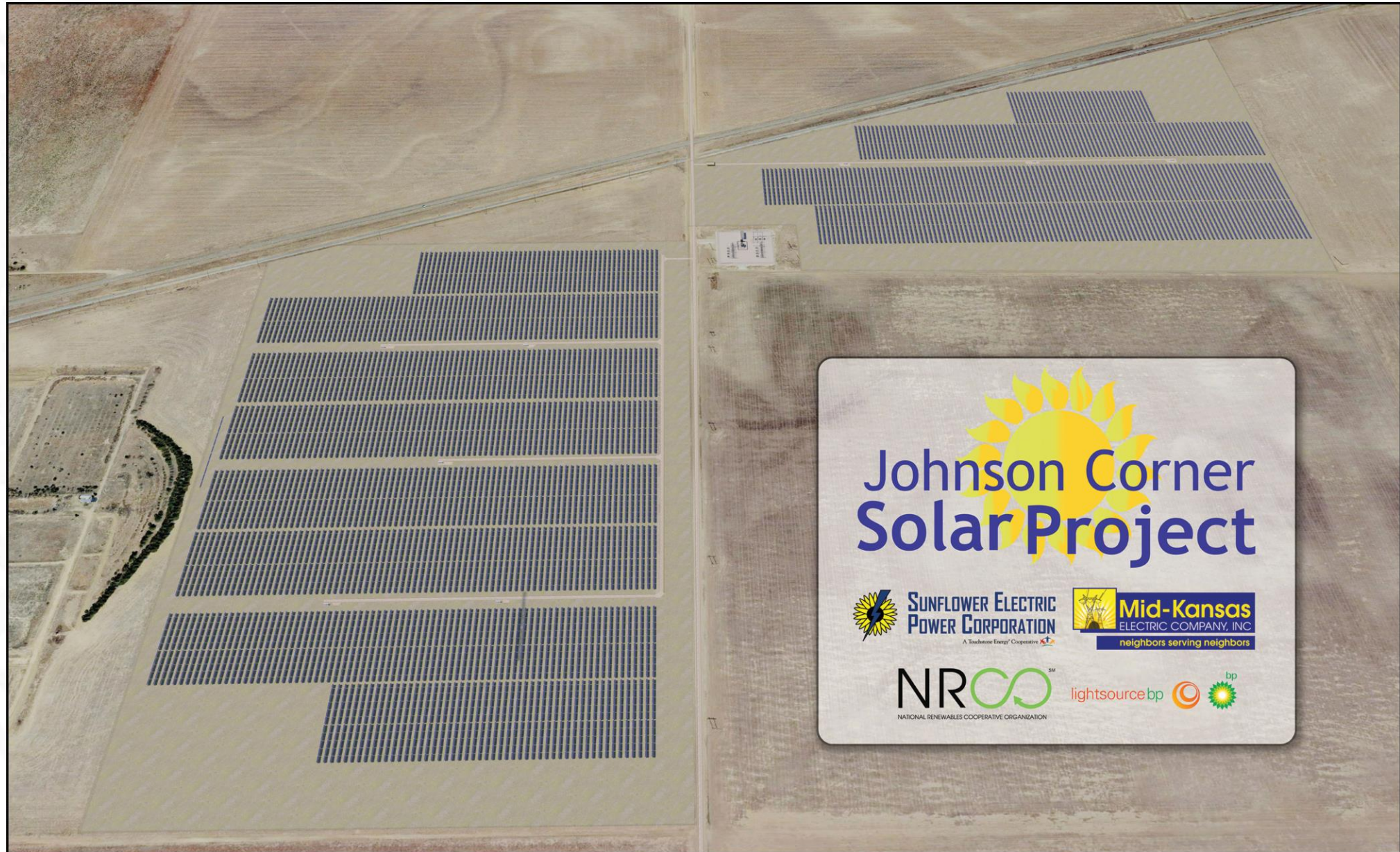
Transmission Value



Solar Insolation Map



Johnson Corner Solar Project



Project Schedule

- January 26, 2018 – Project agreements executed with Lightsource BP
 - 25-Year Power Purchase Agreement
- February 27, 2018 – Public announcement of project
- First Quarter 2019 – Construction Start
- Second Quarter 2019 – Initial Energization
- Third Quarter 2019 – Commercial Operation

Challenges and Lessons Learned in Project Development

- Engage real estate procurement process early and aggressively
- Expect competition for equipment and tax equity supply based on project timing around Investment Tax Credit (“ITC”) deadlines
- Be sure to involve transmission planning engineers in site selection process and look for opportunities to defer transmission upgrades
- Be prepared to evaluate different project structures (purchase power agreement versus project ownership) and engage finance personnel throughout process
- Consider completing as much project development as possible before soliciting for bids to reduce risks and receive better proposals
 - Site Control
 - Interconnection Agreement
 - Environmental Studies
- Research and thoroughly understand property tax implications



Summary

Johnson Corner Solar Project



Why Solar? Why Now? Why Here?

- Price of photovoltaic technology has declined significantly
- Large solar projects are cheaper than smaller projects on \$/kW and \$/kWh basis due to economies of scale
- Kansas' largest solar facility located in the part of the state that has the greatest solar irradiance
- Qualifies for federal tax incentives that are being phased out beginning 2020
- Will defer or eliminate costly transmission upgrades due to its interconnection location on the bulk electric grid
- Value derived from energy, capacity, and transmission savings provides a positive impact on keeping rates low to our Members
- Affordable solution for electric co-op members who want solar energy without the hassle of owning and maintaining residential panels
- Attractive feature to potential new commercial and industrial customers looking to locate in our service territory
- Provides an on-peak, fixed-price hedge against the market price of energy
- Provides diversity to our generation resource portfolio

Project Summary

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| • A collaborative project between Mid-Kansas, Lightsource BP, and the National Renewable Cooperative Organization (NRCO) | • Expected Commercial Operation: Second half of 2019 |
| • Nameplate Capacity (AC): 20 MW (2% of combined system peak) | • Number of Panels: Approximately 86,000 solar panels |
| • Expected Accredited Capacity (AC): 15 MW | • Racking Type: Single-axis tracking |
| • Year 1 Capacity Factor: 31.7% | • Location: 2 miles from Johnson, KS |
| • Year 1 Expected Energy: 55,538 MWh (1% of combined system energy) | • 25-Year Power Purchase Agreement |
| | • Acreage: 241 |



Mid-Kansas
ELECTRIC COMPANY, INC.
neighbors serving neighbors